REMARKS:

The specification stands objected to for failing to recite a brief description of figures 1-6. The specification is being amended at page 14 to add a brief description of figures 1-6. The specification is also being amended at page 14 and pages19-20 to reflect the numbering of figures 8A and 8B. Support for these amendments resides in the specification and drawings.

The drawings stand objected to for failing to number the figure appearing at the top of drawing page (5/8). This figure has been numbered as "FIG.8B". The figure appearing on drawing page (4/8) has been renumbered as "FIG.8A". Replacement sheets (4/8) and (5/8) are attached.

Claims 15- 20 are allowed.

Claim 14 stands rejected as indefinite under 35 USC §112, second paragraph and rejected under 35 USC 101. Claim 14 has been amended herein to set forth a method step adn to remove the indefiniteness in order to overcome these rejections.

Claims 7-12 and 14 stand objected to as depending from a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 1 has been amended herein and is considered allowable for the reasons recited herein below. Claims 7-12 depend from claim 1 and therefore should also now be considered allowable. Claim 14 has been amended into an independent form which it is urged that is now also allowable.

Claims 1-5 stand rejected under 35 USC §103(a) as being anticipated by Nessler et al. (*Testing device for Surgical Grounding Plates*) when read with Pethig (*Dielectric Properties of Biological Materials* et seq.). Nessler et al. is relied upon for a resistance circuit connected to

an electrode for testing surgical grounding plates. Pethig is relied upon for the inclusion of a capacitor for an equivalent skin model.

Nessler et al. discloses a testing device of surgical grounding plate comprising some of the limitation of now amend claim 1. Nessler et al. shows test boards for simulating human skin having measuring resistances simulating the specific skin impedance. With the Nessler et al. device, the thermal characteristics of surgical neutral electrodes may be measured.

However, Nessler et al. fails to disclose that at least one resistance of the equivalent resistance circuit is formed by a reactive resistance. In addition, Nessler et al. also fails to disclose that the resistance of the equivalent resistance circuit representing the hypodermis is formed by a reactive resistance.

Applicant discloses and claims at least one resistance of the equivalent resistance circuit is formed by a reactive resistance. Applicant also discloses and claims that the resistance of the equivalent resistance circuit representing the hypodermis is formed by a reactive resistance. Furthermore, applicant discloses and claims the reactive resistance is formed by a capacitance.

With these features, applicant is able to adjust the effective resistance of the hypodermis to simulate different kinds of hypodermis, especially at different levels of fat (percentage of fat). Therefore, a high percentage of fat may be simulated without reaching to high a temperature in the hypodermis part, which would be the case when using only resistances.

This means that for thick subcutaneous tissue, applicant's simulation is carried out in such a manner that the temperature which would occur in a utilization on a patient in such a situation may be measured reliably. The reactive resistance provides an equivalent impedance in the case of an appropriate frequency of the current, but does not provide an increase in temperature in the case of current flow.

For the present invention, the dielectric properties of the skin are not relevant, but only the temperature rise of the skin is important, which temperature rise is dependent upon the resistive characteristics of the skin.

The issue which applicant solved with the present invention is to provide a measuring system in which the effective resistance of the hypodermis may also be dimensioned for a high percentage of fat without an increase in temperature. This is solved by the device recited in the now amended claim 1.

Nessler et al. does not teach nor suggest using a reactive resistance to represent the hypodermis.

Pethig uses a capacitor to represent a part of the epidermis, i.e., the stratum corneum. The capacitor is used for simulating the dielectric properties of skin. Pethig neither teaches not suggests that the capacitor may be used for simulating different kinds of hypodermis, especially a hypodermis with a high percentage of fat, without reaching a too high temperature in the hypodermis part. The increase in temperature based on a high percentage of fat only appears in the hypodermis when the volume of the hypodermis is large compared to the volume of the corium and epidermis. Thus, the energy loss creates a high temperature for a current flow through the hypodermis, whereas the increase in temperature in the corium may be neglected.

Therefore, one of ordinary skill in the art would not combine Nessler et al. and Pethig, as Pethig does not provide a solution for the objective technical problem. Pethig merely discloses that dielectric properties of skins may be simulated by a circuit comprising a parallel capacitor/resistor combination for the stratum corneum.

Even when combining Nessler et al. with Pethig, one of ordinary skill in the art would not arrive at the claimed invention. The combining of Nessler et al. with Pethig would result in a circuit comprising a capacitor for the simulation of the epidermis. This would not solve the

objective technical problem of temperature increase in the hypodermis. The combination of the two references does not obviate the claimed invention as it would not lead to the claimed invention.

It is requested that the application be reexamined and then passed to issue as now amended.

No additional fees are believed to be required. In the event that an additional fee is required with respect to this communication, the Commissioner is hereby authorized to charge any additional fees, or credit any overpayment, to Paul & Paul Deposit Account No. 16-0750. (order no. 7631)

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Date: October 1, 2009

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